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(54) **Title:** EFFICIENT ARTIFICIAL INTELLIGENCE-BASED BASE CALLING OF INDEX SEQUENCES

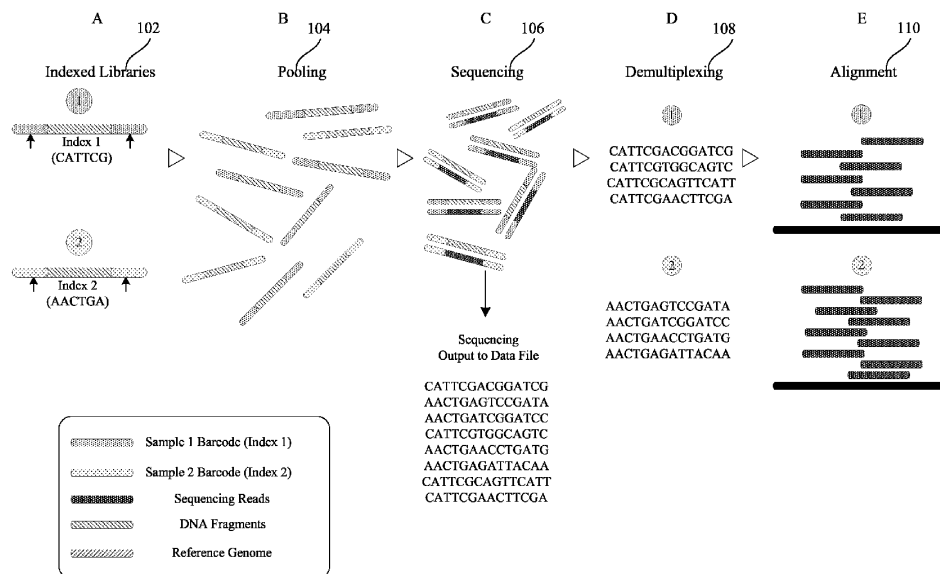


FIG. 1

(57) **Abstract:** Techniques for improving artificial intelligence-based base calling are disclosed. The improved techniques can be used to better train artificial intelligence for base calling by reordering of sequencing images, and training of a neural network-based base caller where the temporal logic is effectively "frozen" (or bypassed). In addition, the improved techniques include various combinations, including, for example, combining "normalization" of sequencing images with reordering of sequencing images and/or with effectively "freezing" the temporal logic.

[Continued on next page]

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- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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